

SOV/137-58-9-18246

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p4 (USSR)

AUTHORS: Tyurenkov, N. G., Suvorov, F. S.

TITLE: Concentration of Bakal Ores (Obogashcheniye bakal'skikh rud)

PERIODICAL: V sb.: Vopr. razvitiya Bakal'sk. rudn. bazy. Sverdlovsk, 1957, pp 201-210

ABSTRACT: The results of investigations on the capacity for concentration of Bakal ores are presented. It is noted that ~75% of these ores can be prepared for smelting by drying, screening, and agglomeration of fines. The remaining portion of the ores would demand more complicated procedures with magnetizing roasting followed by magnetic separation. The most important problems demanding solution in further investigation are indicated.

1. Ores--Concentrates 2. Ores--Preparation 3. Ores I. M.  
--Separation 4. Ores--Analysis

Card 1/1

SOV/137-58-9-18293

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 10 (USSR)

AUTHORS: ~~Suvorov, F. S.~~ Kvaskov, A. P.

TITLE: The Concentration of Magnetite Ores of Northern Ural (Obogashcheniye magnetitovykh rud Severnogo Urala)

PERIODICAL: Tr. N. -i. i proyekt. in-ta "Uralsmekhanobr", 1957, Nr 1, pp 98-105

ABSTRACT: The results are given of the investigation of the feasibility of concentration of Fe ores from the Northern Ural originating at the Auerbakhovsk, Severo-Peschanskoye, Maslovo, and the 2nd Severnyy mines, which constitute the raw material base for the Serov metallurgical plant. The magnetite ores of the deposits enumerated contain magnetite, hematite, martite, limonite, pyrite, pyrrhotite, chalcopyrite, covellite, and sphalerite. The Fe content of the ore mass is 30 - 50%. According to the conditions of the plant the agglomerate should contain 55 - 58% Fe, up to 0.1% Cu and  $\geq 0.15\%$  P. The dressing procedure developed includes the following main operations: a) crushing of the initial ore to 25(35) - 0mm and dry separation; b) wet magnetic separation for obtaining the

Card 1/2

SOV/137-58-9-18293

The Concentration of Magnetite Ores of Northern Ural

Fe concentrate; c) apatite flotation to remove the phosphorus; d) sulfide flotation to obtain Cu and  $\text{Cu-FeS}_2$  concentrate; d) magnetic control separation of the tailings of the flotation for supplementary extraction of Fe; e) agglomeration of the Fe concentrates. The results of the investigation of the feasibility of concentrating ores of the Northern Ural deposits are laid as the basis for the layout of the Serov ore-dressing plant.

1. Magnetite ores--Concentration      2. Magnetite ores--Test results      E. V.

Card 2/2

SUVOROV, F.S.

Technical methods in dressing carbonate manganese ores from  
Northern Ural deposits. Trudy Inst. met. UFAN SSSR no.7:53-67  
'61. (MIRA 16:6)

(Ural Mountains--Manganese ores)  
(Ural Mountains--Carbonates)  
(Ore dressing)

SUVOROV, G.; KHINKIS, A.; CHURILIN, M.

First to win the title. Metallurg 6 no.7:27-29 J1 '61.  
(MIRA 14:6)

1. Magnitogorskiy retallurgicheskiy gombinat.  
(Magnitogorsk--Metallurgical plants)

SUVOROV, G. D.

Mathematical Reviews  
Vol. 15 No. 3  
March 1954  
Topology

7-13-54  
LH

① with 3  
Suvorov, G. D. Prime ends of a sequence of plane regions  
converging to a nucleus. Mat. Sbornik N.S. 33(75),  
73-100 (1953). (Russian)

The author shows that the whole theory of prime ends  
developed by Carathéodory for a single simply-connected  
plane domain [Math. Ann. 73, 323-370 (1913)] fits in even  
better, and with almost no change of wording, when this  
single domain is replaced by a notion which Carathéodory  
had himself previously introduced [ibid. 72, 107-144  
(1912)], namely that of a sequence of domains converging  
to a nucleus. In terms of the new prime ends, the author is  
able to restate many of Carathéodory's results in a more  
general setting and he observes that there are similar exten-  
sions of recent work of J. Lelong-Ferrand [J. Math. Pures  
Appl. (9) 31, 103-126, 245-252 (1952); these Rev. 14, 36].

L. C. Young (Madison, Wis.).

SUVOROV G.D.

Suvorov, G. D. Remarks on a theorem of Lavrent'ev

Dokl. Akad. Nauk SSSR 1971 228:1 1-3

1971

A theorem of Lavrent'ev is proved in the form of a theorem on the approximation of functions by polynomials. The theorem states that if a function  $f(z)$  is analytic in the unit disk  $|z| < 1$  and continuous on the boundary  $|z| = 1$ , then for any  $\epsilon > 0$  there exists a polynomial  $P_n(z)$  such that  $|f(z) - P_n(z)| < \epsilon$  for all  $|z| \leq 1$ . The proof is based on the Runge approximation theorem and the Weierstrass approximation theorem.

SUVOROV, G. D.

		Call Nr: AF 1108825
Transactions of the Third All-union Mathematical Congress (Cont.)	Moscow,	
Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.		
Sofronov, I. D. (Moscow). On Approximate Solution of	102-103	
Singular Integral Equations.		
Stechkin, S. B. (Moscow). Problem of Absolute Convergence	103	
of the Orthogonal Series.		
There is 1 USSR reference.		
Suvorov, G. D. (Tomsk). On the Continuity of Univalent	103-104	
Mappings of Arbitrary Closed Regions.		
Mention is made of Lavrent'yev, M. A.		
Suyetin, P. K. (Ural'sk). On Polynomials, Which are	105	
Orthogonal in Area.		
Talalyan, A. A. (Yerevan). On the Convergence Almost	105	
Everywhere of Orthogonal Series.		
Card 32/80		



SUVOROV, G.D.

3  
SUZUKI, G. D. the continuity in the closed circle of 1-F.W  
the open circle. Uspehi Mat. Nauk

Sam  
MT

SUVOROV, ~~GRIGORI~~ G. D.

Suvorov, G. D. On the order of equicontinuity of a class  
of analytic mappings on certain domains. Dokl. Akad.  
Nauk SSSR 166 (1965) 22-23 (Russian)

map the  
domain

where  $1 \leq k \leq \infty$

1. *Math. Pures Appl.* (9) 31 (1952),  
215-217. MR. 14, 47. For  $z_1$  and  $z_2$  are  
points of the domain  $D$ .

$$(*) \quad \rho(T(z_1), T(z_2); \Delta) < A(k, \delta) \log \left[ \frac{\delta \sqrt{\delta}}{2\rho(z_1, z_2; D)} \right]^{-1/k},$$

where  $A(k, \delta)$  depends only on  $k$  and  $\delta$ . The metric  $\rho$ ,  
with respect to which the "boundary" of  $D$  is defined, is  
too complicated to be reproduced here, the important  
point being that "boundary" points correspond to prime  
ends. When  $D$  is the open unit disk, and  $T(z)$  is a schlicht  
analytic function, then (\*) simplifies into a result of  
Lavrent'ev [U.R. Dokl. Acad. Sci. URSS (N.S.) 4 (1936),  
215-217].

E. Reich (Minneapolis, Minn.)

SUVOROV, G.D.

SUBJECT USSR/MATHEMATICS/Theory of functions  
 AUTHOR SUVOROV G.D.  
 TITLE On the continuity of schlicht mappings of arbitrary closed regions.  
 PERIODICAL Doklady Akad. Nauk 108, 777-779 (1956)  
 reviewed 11/1956

CARD 1/1 PG - 355

In an earlier paper (Doklady Akad. Nauk 107, 1, (1956)) the author has formulated a theorem on the order of the equicontinuity of a certain class of schlicht mappings. There it was assumed that the considered regions and their images are bounded. Now, the author formulates (without proof) a theorem which permits to make similar assertions in the three other cases, namely if the considered region, or the image, or the region and the image are unbounded.

INSTITUTION: University. Tomsk.

16

16(1)  
 AUTHORS: Prilepko, A.I., and Suvorov, G.D. SOV/42-14-1-18/27  
 TITLE: An Existence Theorem for Convergent Sequences of Analytic Functions (Odná teorema sushchestvovaniya dlya skhodyashchikhsya posledovatel'nostey analiticheskikh funktsiy)  
 PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 1, pp 215-218 (USSR)  
 ABSTRACT: Theorem: In the  $w$ -plane let be given a bounded continuum  $K$ . Let the point  $w_0$  belong to that component of the complement of  $K$  which contains the infinitely far point. Then there exists a sequence of schlicht functions  $\{f_n(z)\}$ ,  $f_n(0) = w_0$ ,  $f'_n(0) > 0$ , analytic in  $|z| < 1$  which converges uniformly in  $|z| < 1$ , and a point  $z_0$  on  $|z| = 1$  so that the set of all points of condensation of arbitrary sequences  $\{f_n(z_n)\}$ ,  $\lim_{n \rightarrow \infty} z_n = z_0$ ,  $|z_n| < 1$  is identical with  $K$ .  
 There are 4 references, 3 of which are Soviet, and 1 German.  
 SUBMITTED: July 18, 1957

Card 1/1

16(1)

AUTHOR: Suvorov, G.D.

S0V/39-48-2-7/9

TITLE: Corrections to the Paper "On the Deformation of the Distances  
for Schlicht Mappings of Closed Simply Connected Domains"

PERIODICAL: Matematicheskiy sbornik, 1959, Vol 48, Nr 2, pp 251-252 (USSR)

ABSTRACT: The author gives some corrections of the above mentioned paper  
(Matematicheskiy sbornik, 1958, Vol 45, pp 159-180). By a change  
of a definition and corresponding changes in the proofs all  
results remain true.

SUBMITTED: February 19, 1959

Card 1/1

16(1)

AUTHOR:

Suvorov, G.D.

SOV/20-124-4-11/67

TITLE:

Boundary Correspondence in Topological Mapping  
of Plane Regions with a Variable Boundaries (Sootvetstviye granits  
pri topologicheskikh otobrazheniyakh ploskikh oblastey s  
peremennymi granitsami)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 772-774 (USSR)

ABSTRACT: It is shown that the theory of simple ends of plane sequences  
of domains converging to a non-degenerated kernel, holds not  
only for conformal mappings (compare Suvorov [Ref 1]) but for  
more general mappings too (e.g. for quasiconformal, harmonic,  
etc. mappings). The results partly overlap with those of Lelong-  
Ferrand.

There are 5 references, 3 of which are Soviet, and 2 French.

ASSOCIATION: Tomskiy gosudarstvennyy universitet imeni V.V.Kuybysheva (Tomsk  
State University imeni V.V.Kuybyshev)

PRESENTED: October 13, 1958, by M.A.Lavrent'yev, Academician

SUBMITTED: October 7, 1958

Card 1/1

16(1) 16,5400

AUTHORS: Ionin, V.K., and Suvorov, G.D.

TITLE: On the Components of the Level Sets of the Function - Distance to a Plane Continuum

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 3, pp 496-498 (USSR)

ABSTRACT: Let  $K$  be a bounded continuum in the plane  $P$  and  $r = \zeta(M, K) \equiv \zeta(M)$  be the distance between the point  $M \in P$  and  $K$ . The level set  $E_r$  of  $\zeta(M)$  is the set of all  $M \in P$  for which  $\zeta(M) = r$ .  
Theorem: Let  $E_r^\alpha$  be a component of  $E_r$ ; let  $G_r^\alpha$  be that connected component of the open set  $P \setminus E_r^\alpha$  which contains  $K$ ; let  $G_r^{\alpha*}$  be the boundary of  $G_r^\alpha$ . Then all simple ends of  $G_r^\alpha$  contain one point each; it is  $E_r^\alpha = G_r^{\alpha*}$  and it holds:

- I. For all  $r > 0$  the  $E_r^\alpha$  may belong only to the following types:  
1. simple closed rectifiable Jordan curve; 2. simple open smooth Jordan arc; 3. sum of finitely or countably many closed simple Jordan curves, smooth arcs, etc.; 4. point.  
II. The closed curves in the types 1 and 3 have no tangent in at most countably many points (corner points). The ramification points in type 3 are points of regression.

Card 1/3

66441

SOV/20-129-3-6/70

On the Components of the Level Sets of the  
Function-Distance to a Plane Continuum

66441

SOV/20-129-3-6/70

III. Components of the type 2 and 3 are possible at most for countably many level sets  $E_r$ . If the components of the type 1 in a countable number appear also only for countably many level sets, then at most countably many level sets have the components of the type 4.

IV. Let  $\Delta = \Delta(\alpha, r, \delta)$  be the set of those points of  $G_r^\alpha$  the distance of which from  $E_r^\alpha$  is smaller than  $\delta$ ,  $0 < \delta < r$ . Let  $\Delta^*$  be the boundary of  $\Delta$ . Then  $\Delta^* \setminus E_r^\alpha = \Gamma(\alpha, r, \delta)$  is a simple closed smooth Jordan curve. Let  $l(\alpha, r, \delta)$  be its length and  $l(\alpha, r)$  be the "length" (defined below) of  $E_r$ . Then

$$(1) \quad l(\alpha, r) = l(\alpha, r, \delta) \pm 2\pi\delta.$$

The set  $\bigcup_{0 < \delta < r} \Gamma(\alpha, r, \delta)$  is a two times connected region and

$S(\alpha, r)$  its area; it is

$$(2) \quad l(\alpha, r) = \frac{S(\alpha, r) \pm \pi r^2}{r}.$$

X

Card 2/3



16(1) 1 54  
AUTHOR:

Suvorov, A.D.

TITLE:

A Theorem on the Sequences of Topological Mappings of Regions Belonging to Compacts

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 744-746 (USSR)

ABSTRACT:

Theorem: Let  $\{A_n\}$ ,  $n=1,2,\dots$ , be a sequence of domains of the compact metric space  $(X, \rho)$  (with the metric  $\rho$ ) having a non-degenerated kernel with respect to the point  $O$ . Let  $\{T_n(x)\}$  be a sequence of topological mappings of  $A_n$  onto domains  $B_n$  of the compactum  $(Y, r)$ , where  $T_n(O) = O'$ ,  $n=1,2,\dots$ . Let the following conditions be satisfied: a) The mappings of an arbitrary subsequence  $\{T_{n_k}\} \subset \{T_n\}$  (or  $\{T_{n_k}^{-1}\} \subset \{T_n^{-1}\}$ ) are simultaneously open in the kernel with respect to the point  $O$  (or with respect to  $O'$ ) of this subsequence; b) the mappings  $\{T_{n_k}\}$  (or  $\{T_{n_k}^{-1}\}$ ) are simultaneously continuous inside of the kernel (with respect to  $O$ ) of the sequence  $\{A_n\}$  (or with respect to  $O'$  of the sequence  $\{B_{n_k}\}$ ). Under the given assumptions, a sequence of integers  $\{p_n\}$  can be

Card 1/2

672:6

30V/20-129-4-8/68

A Theorem on the Sequences of Topological Mappings  
of Regions Belonging to Compacts

defined so that  $\alpha) \{A_{p_n}\}$  converges to  $A_0$  as a kernel;  $\beta) \{B_{p_n}\}$   
converges to  $B_0$ , as a kernel;  $\gamma) \{T_{p_n}\}$  converges uniformly inside  
of  $A_0$  to the topological mapping  $T$  of the domain  $A_0$  on  $B_0$ ;  $\delta) \{T_{p_n}^{-1}\}$  converges uniformly inside of  $B_0$  to  $T^{-1}$ .

The definitions of the notions kernel etc. are analogous to  
those in the plane case.  
There are 3 references, 2 of which are Soviet and 1 French.

ASSOCIATION: Tomskiy gosudarstvennyy universitet imeni V.V. Kuybysheva  
(Tomsk State University imeni V.V. Kuybyshev)

PRESENTED: July 8, 1959, by M.A. Lavrent'yev, Academician

SUBMITTED: July 2, 1959

Card 2/2

SUVOROV, G. D. Doc Phys-Math Sci -- "Basic properties of certain general  
classes of topological transformations of plane <sup>fields</sup> ~~regions~~ with variable boundaries."  
Novosibirsk, 1960 (Acad Sci USSR. Siberian Department. Joint Academic Council  
for Phys-Math and Tech Sci). (KL, 4-61, 182)

SUVOROV, G.D.

Deformation of distances in univalent  $Q$ -quasiconformal mappings of  
plane regions. Sib. mat. zhur. 1 no.3:492-522 S-O '60.

(MIRA 14:2)

(Conformal mappings)

16.3000

29811  
S/020/61/140/006/005/030  
C111/C444

AUTHOR: Suvorov, G. D.

TITLE: The "length and area" principle for Q-quasiconformal mappings

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 6, 1961, 1267-1269

TEXT: In this paper the so-called "length and area" principle, see V. K. Kheyman (Ref. 1: Mnogolistnyye funktsii, 1960 [Multivalent functions]) is generalised to the non-schlicht Q-quasiconformal mappings. In the arbitrary domain D of the z-plane a continuous distribution of characteristics  $(q(z), \Theta(z))$  be given; let  $w = T(z)$  be the inner (in the sense of S. Stoilov) quasiconformal mapping of D into the plane  $w = u + iv$ , see L. J. Volkovyskiy (Ref. 3: Kvazikonformnye otobrazheniya [Quasiconformal Mappings] Izd. L'vovsk. univ., 1954, p. 26) with the mentioned characteristics. Let  $\omega \in D$ . As in ref. 1 let  $n(w)$  be the number of roots of  $T(z) = w$ .  $n = n(w)$  being measurable, one may put

$$P(R) = P(R, D, T) = \frac{1}{2\pi} \int_0^{2\pi} n(R e^{i\psi}) d\psi$$

Card 1/5

29811

S/020/61/140/006/005/030

C111/C444

The "length and area" principle . . .

where the integral is a Lebesgue integral. In the  $z$ -plane the spherical metric  $(r)$  is considered which is obtained by stereographic projection of the  $z$ -plane on the Riemannian sphere with the radius  $r$  which touches the plane in the origin of coordinates.

Theorem 1: Let  $w = T(z)$  be a  $Q$ -quasiconformal ( $q(z) \leq Q$ ) inner mapping of  $D$  into the  $w$ -plane. If  $L_r(R) \equiv L_r(R, D, T)$  is the total length (in the spherical metric  $(r)$ ) of the curves in  $D$  on which  $|T(z)| = R$ , then

$$\int_0^{\infty} \frac{L_r^2(R) dr}{R^2 P(R)} \leq 2\pi Q S_r(D) \quad (1)$$

where  $S_r(D)$  is the spherical area of  $D$ . If  $D$  has the finite area  $S(D)$  in the ordinary Euclidean metric, there follows from (1) for  $r \rightarrow \infty$

$$\int_0^{\infty} \frac{L^2(R)}{R^2 P(R)} dR \leq 2\pi Q S(R) \quad (2)$$

where  $L(R) = \lim_{r \rightarrow \infty} L_r(R)$ . For  $Q = 1$  one obtains the inequality on

Card 2/5

29811  
S/020/61/140/006/005/030  
C111/C444

The "length and area" principle . . .  
which ref. 1 is based.

For application of (1), (2) the following examples are given:

1) if D is:  $|z| < 1$  and  $T(z) \neq 0$  in D and  $|T(0)| = R_1$ ,  $|T(re^{i\varphi})| = R_2$   
for  $0 < r < 1$ ,  $0 \leq \varphi < 2\pi$ , then

$$\left| \int_{R_1}^{R_2} \frac{dR}{RP(R)} \right| \leq 2Q \left( \ln \frac{1+r}{1-r} + \pi \right) \quad (3)$$

2) if  $\int_0^R P(\xi, D, T) d\xi^2 \leq pR^2$ ,  $0 < R < \infty$  ( $p > 0$  and not necessarily an integer) (Ref. 1, p. 32.), (supposing  $T \neq 0$  in D,  $0 < r < 1$ ),  
then

$$\frac{|T(0)|}{e^{2pQ+1/2} \left( \frac{1-r}{1+r} \right)^{2pQ}} < |T(re^{i\varphi})| < |T(0)| e^{2pQ+1/2} \left( \frac{1+r}{1-r} \right)^{2pQ} \quad (5).$$

Now let D be simply connected,  $\infty \notin D$ . Let  $\xi_1 = \xi_1 + i\eta_1$ ,  $\xi_2 = \xi_2 + i\eta_2$ ,

Card 3/5

29811

S/020/61/140/006/005/030

C111/C444

The "length and area" principle . . .

$\xi_1 < \xi_2$  be two attainable boundary points of  $D$ . The straight lines  $\operatorname{Re} z = x$ ,  $\xi_1 < x < \xi_2$  meet  $D$  in at most denumerably many lines. Each of these lines divides  $D$  into two subdomains. One of these subsets  $Q_x$  separates  $S_1$  and  $S_2$  in  $D$ . Let  $\theta(x)$  be the length of  $\partial Q_x$  (in the Euclidean metric). Let  $w = u + iv \equiv T(z)$  be a  $Q$ -quasiconformal mapping of  $D$  onto the strip  $|v| < a/2$ ,  $a > 0$ , such that  $S_1, S_2$  are transformed into  $u = -\infty$  and  $u = +\infty$ . Let  $\xi_1 < x_1 < x < x_2 < \xi_2$ . Under this mapping  $Q_x$  changes into the continuous curve  $l_x$  which joins the straight lines  $v = \pm a/2$ . If  $u_2(x)$  is the largest and  $u_1(x)$  the smallest value of  $u$  on  $l_x$ , then it holds:

Theorem 2: if

$$\int_{x_1}^{x_2} \frac{dx}{\theta(x)} > 2, \text{ then}$$

Card 4/5



SUVOROV, G. D.

"Topological mappings of plane regions with variable boundaries"  
report submitted at the Intl Conf of Mathematics, Stockholm, Sweden,  
15-22 Aug 62

SUVOROV, G.D.

Fundamental properties of certain general classes of topological mappings of plane regions with variable boundaries. Usp.mat.nauk 17 no.3:221-226 My-Je '62. (MIRA 15:12)  
(Topology)

SUVOROV, G.D.

Univalent mappings of plane regions and generalized zero-measure sets of simple ends of the respective region. Dokl. AN SSSR 152 no.2:296-298 S '63. (MIRA 16:11)

1. Tomskiy gosudarstvennyy universitet im. V.V. Kuybysheva.  
Predstavleno akademikom M.A. Lavrent'yevym.

SUVOROV, G.D.

Fundamental theorem on the correspondence of boundaries for a  
sequence of class  $BL_k$  topological mappings of plane regions.  
Sib. mat. zhur. 5 no.5:1152-1162 S-0 '64.

(MIRA 17:11)

ACCESSION NR: AP4013319

S/0020/64/154/003/0523/0526

AUTHORS: Ovchinnikov, I.S.; Suvorov, G.D.

TITLE: Transformation of the Direchlet integral and space mapping

SOURCE: AN SSSR. Doklady\*, v. 154, no. 3, 1964, 523-526

TOPIC TAGS: Direchlet integral, Direchlet integral transformation, space mapping, three dimensional mapping, conformal mapping, topology, fundamental sequence, Cauchy sequence

ABSTRACT: The inequality expressing the length and area principle has found wide application in the theory of plane mappings (conformal, quasi-conformal and the more general ones). This inequality, as well as a number of its modifications, can be obtained by simple transformations of the Direchlet integral for a plane representation. If the problem is to find a class of representations, a class of admissible domains and the relative distances introduced by compatibility, then the problem of boundary agreement with the topological representation  $y = T(x)$ ,  $x \in A$ ,  $y \in B$  can be reduced to

Card 1/3

ACCESSION NR: AP4013319

prove that, with a direct and inverse representation  $T$  and  $T^{-1}$  Cauchy sequence will turn into the fundamental. This problem is automatically solved if it is possible to find the functions  $\varphi_1(\alpha)$  and  $\varphi_2(\alpha)$  so that  $\varphi_1(\alpha) \rightarrow 0$  with  $\alpha \rightarrow 0$ , and such that

$$\varphi_1[\rho_A(x', x'')] \leq r_B[T(x'), T(x'')] \leq \varphi_2[\rho_A(x', x'')] \quad (1)$$

for any points  $x', x'' \in A$  which are sufficiently close with respect to  $\rho_A$ . This was expanded to apply to three dimensional mapping. The examined classes of representations include the class of  $Q$ -quasiconformal mappings, translating the domains into domains with a bounded volume. The classes of the  $D$  and  $\Delta$  domains can be expanded by means of introducing a spherical metric, defining the relative distances by this metric and examining the spherical analogy of the Dirichlet integral. This method can permit simplification even in an  $n$ -dimensional case. Orig. art. has: 8 equations.

ASSOCIATION: Towskiy gosudarstvennyy universitet im. V.V.

Card 2/3

ACCESSION NR: AP4013319

Kuyby\*sheva (Towsk State University)

SUBMITTED: 30Aug63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

Card 3/3

SUVOROV, G.D.

Metric properties of plane univalent mappings of closed regions. Dokl. AN SSSR 157 no. 4:802-805 Ag '64 (MIRA 17:8)

L. Tonskiy gosudarstvennyy universitet im. V.V. Kuybysheva.  
Predstavleno akademikom M.A. Lavrent'yevym.



OVCHINNIKOV, I.S.; SUVOPOV, G.D.

Transformations of the Dirichlet integral and mappings  
in space. Sib. mat. zhurn. 6 no.6:1292-1314 R-D '65.

(MIRA 18:12)

SUVOROV, Georgiy Dmitriyevich; ZAYTSEVA, I.P., red.

[Families of plane topological mappings] Semeistva  
ploskikh topologicheskikh otobrazhenii. Novosibirsk,  
Red.-izd. ot del Sibirskogo otd-niia AN SSSR, 1965.  
264 p. (MIRA 19:1)

L 37753-66 EWT(d)/T IJP(c)

ACC NR: AP6014527

SOURCE CODE: UR/0199/65/006/006/1292/1314

AUTHORS: Ovchinnikov, I. S.; Suvorov, G. D.

ORG: none

TITLE: Dirichlet-integral transforms and three-dimensional mappings

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 6, no. 6, 1965, 1292-1314

TOPIC TAGS: integral transform, mapping, conformal mapping, partial derivative, bounded function, Euclidean space, vector function, continuous function, *DIRICHLET PROBLEM*

ABSTRACT: Proofs of theorems announced earlier (I. S. Ovchinnikov and G. D. Suvorov. Preobrazovaniya integrala Dirikhle i prostranstvennyye otobrazheniya, Doklady Ak. nauk SSSR, 154, No. 3 (1964), 523-526) are given. The principal theorem of the method is expressed by the inequality

$$\int_{r_1}^{r_2} \frac{\Omega^2(r)}{r} dr \leq M_0 J(f, D_{r_1, r_2}) \leq M_0 J(f, D),$$

where  $M_0 = \frac{(8\pi)^{\frac{1}{2}}}{\Gamma^{\frac{1}{2}}(\frac{1}{2})}$  and  $D_{r_1, r_2} = \bigcup_{r \in [r_1, r_2]} S_r$ . It is shown that for all values of  $r$ , the integral

$$\int_{S_r} \Lambda(f, x) ds$$

Card 1/2

UDC: 517.54

L 37753-66

ACC NR: AP6014527

is finite. A theorem containing the upper bound of distortions of ordinary distances within an arbitrary domain for monotone mappings is given. The concept of relative distance in a metric domain is introduced

$$\rho(x', x''; D \setminus 0) = \inf d[K].$$

The upper bound of the relative distance in a closed domain-image is given in terms of the Euclidean distance in the closed sphere-original. The upper and lower bounds of distortions of Euclidean distances in closed spheres mapped onto one another are proved.

$$\varphi_1(\|x' - x''\|) < \|f(x') - f(x'')\| < \varphi_2(\|x' - x''\|),$$

$$\varphi_1(\alpha) = 1/2 \exp [-4M_0 I(f^{-1}, \Delta) / \alpha^2],$$

$$\varphi_2(\alpha) = [4M_0 I(f, D)]^{1/2} \ln^{-1/2} 1 / 2\alpha.$$

The first example of mapping shows the impossibility of obtaining in general a nontrivial lower bound of distortion of relative distances in mappings of a closed Jordan domain. The second mapping example shows the impossibility of an upper bound in the same general situation. Orig. art. has: 48 formulas.

SUB CODE: 08,12/ SUBM DATE: 20Jul64/ ORIG REF: 011/ OTH REF: 005

Card 2/2 *lo*

u  
SIVOROVA, G.F.

solid products of cements

BOGORODINSKIY, D.K.; SUVOROV, G.P.

Clinical aspects of craniovertebral tumors. Zhur. nevr. i psikh.  
61 no.4:497-500 '61. (MIRA 14:7)

1. Kafedra nervnykh bolezney (zav. - prof. D.K.Bogordinskiy) i  
Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.  
(NERVOUS SYSTEM--TUMORS)

SUVOROV, G. S.

USSR/Mathematics - Schlicht Functions Jun/Aug 53

"Simple Termini of a Sequence of Plane Regions That Converges to a Nucleus," G. S. Suvorov, Tomsk

Mat Sbor, Vol 33 (75), No 1, pp 73-100

Systematically studies sequences of schlicht functions  $f_n(z)$  that are continuously convergent in a circle. Cites the related work of A. I. Markushevich ("Conformal Representation of Regions with Variable Boundaries," Mat Sbor. 1 (43), 1936). Presented 19 Jul 52.

271T82

SUVOROV, G. V. Cand. Med. Sci.

Dissertation: "Lyophilic Desiccation as a Method of Preserving Standard Strains."  
Central Inst. for Advanced Training of Physicians. 16 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)



S/271/63/000/003/010/049  
A060/A126

AUTHOR: Suvorov, G.V.

TITLE: Graphic method of constructing transient processes in an automatic regulation system

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 3, 1963, 50 - 51, abstract 3A287 (In collection "Elektroprivod i avtomatiz. prom. ustanovok", Moscow - Leningrad, Gosenergoizdat, 1960, 68)

TEXT: The author proposes a method of construction for transient processes in automatic regulation systems. The essence of the method consists in the following: 1) a system of first-order differential equations in dimensionless relative units is constructed for the given system; 2) the values of all the quantities which enter in the equations of the system in the time-interval  $\Delta t$  are determined. This method makes it possible to raise the precision even when a large time-step is used for integration.

[Abstracter's note: Complete translation]

M. M.

Card 1/1

Внесены в об'явление соребачае по атоматизації промислових процесів в машинобудуванні і атоматизації електротехніки в промислових заст. 34, Москва, 1979

Електротехнічна і атоматизація промислових процесів: труды соребачае (атоматизація і атоматизація в промислових процесах; Transactions of the Conference) Moscow, Gosenergoizdat, 1980. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirovkin, and M.G. Chilikin; Eds.: I.I. Sud, and K.P. Silayev; Tech. Eds.: K.P. Vorobin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

CONTENTS: The book is a collection of reports submitted by scientific workers at plants, scientific institutions, and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1979. The Conference was called by the Academy of Sciences USSR, the Gosplan USSR (State Planning Commission USSR), the GNTI USSR, the Gosstatizvestnyy Komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the National'nyy komitet sng po avtomaticheskomy upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskyy komitet po avtomatizirovannym elektropriivodu (Scientific and Technical Committee on Automated Electric Drives), the KII (Moscow Institute of Electrodynamics), the VNIIE, the IIF (Institute of Automation and Telesmechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya (Commission on the Technology of Machine Building) of the Academy of Sciences of the USSR. It was the purpose of the Editorial Board to arrange the reports in a way which would ensure relatively complete presentation of theoretical and practical problems relating to electric drives, including the problems of automated electric drives and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to electric contact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of IIF transactions or in the journal "Elektricheskoye" are marked with an asterisk. No personalities are mentioned.

References accompany some of the papers.

GENERAL PRINCIPLES CONCERNING THE MEAN AND

PLANNING OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

Magn, B.N., Doctor of Technical Sciences, I.O. Sorokan, Professor, Doctor of Technical Sciences, Yu.Ye. Morozov, and Ye.B. Pismod, Engineers. Automation of the Calculations of Electric Drives by Means of Electronic Digital Computers

41

Baltushchikov, A.V., Engineer. Stability of One Type of Digital Servo-Systems

44

Korogod, Yu.B., Engineer. Investigation of the Dynamic Properties of a Self-Excited System by the Method of Experimental Frequency-Response Characteristics

49

Sybenko, V.A., Candidate of Technical Sciences, Doctor. Transient Electromagnetic Phenomena in Induction Motors and Their Effect on the Dynamics and Operational Reliability of Automated Electric Drives

58

Shvynina, G.Y., Engineer. Graphic Method of Designing Transient Processes in an Automatic Regulation System

68

Shaytan, B.M., Engineer. Determining Amplitude-Phase Characteristics of an Automated Electric Drive on the Basis of Transient Functions

69

Kudryav, Ya.B., Candidate of Technical Sciences. Problems of Electric Drives of Mechanisms Containing Links With Distributed Parameters

70

Leifman, Yu.P., Engineer. Effect of Transient Electromagnetic Processes on Pulse Regulation Dynamics of Squirrel-Cage Induction Motors

76

Kudchenko, L.A., Candidate of Technical Sciences, Doctor. Dynamics of Induction Electric Drives Controlled According to V.S. Kulbakin's Scheme

77

Drozdov, S.F., Candidate of Technical Sciences. Absorbing Brake Equilibrium in Electric Drives With Individual Generating Sets

78

Barshin, A.Y., Professor, Doctor of Technical Sciences. Graphic Method of Synthesis of Electric-Drive Automatic-Control Systems

79

Bozshat, M.A., Doctor of Technical Sciences, and M.A. Boyarchuk, Engineer. Reversing D-C Drive With Magnetic Amplifiers

86

SAVOROV, G.V.

LEVINTOV, S.D., kand.tekhn.nauk; SUVOROV, G.V., inzh.

Concerning the measurement of the r.m.s. value of the current  
of electric motors. Prom. energ. 15 no.7:24-26 J1 '60. (MIRA 15:1)  
(Electric motors)  
(Electric currents, Alternating--Measurement)

BORTSOV, Yuriy Anatoli'yevich, kand.tekhn.nauk, ispolnyayushchiy  
obyazannosti dotsenta, SUVOROV, Gennadiy Vasil'yevich,  
starshiy преподаvatel, TANEYEV, Yuriy Aleksandrovich, inzh.

Use of mathematical simulation for improving the dynamic  
properties of the electric drive of the Blooming shears.  
Izv. vys. ucheb. zav.; elektromekh. 4 no.4:54-61 '61.

(MIRA 14:7)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy  
Chelyabinskogo politekhnicheskogo instituta (for Bortsov,  
Suvorov). 2. Chelyabinskiy metallurgicheskiy zavod (for  
Taneyev).

(Electric driving)

(Electromechanical analogies)

BORTSOV, Yu.A., kand. tekhn. nauk; SUVOROV, G.V., inzh.

Determination of circuit parameters in the simulation of  
electromagnetic elements. Elektrichestvo no.8:26-28 Ag '63.  
(MIRA 16:10)

1. Chelyabinskiy politekhnicheskii institut.

ACC NR: AP7001418 (N) SOURCE CODE: UR/0413/66/000/021/0133/0133

INVENTOR: Suvorov, G. V.; Guliyants, R. Ts.

ORG: none

TITLE: Device for the automatic measurement of mean wind direction.  
Class 42, No. 188073

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
no. 21, 1966, 133

TOPIC TAGS: wind, wind direction, wind direction instrument, wind  
measurement, wind meter

ABSTRACT: An Author Certificate has been issued for a device for the automatic measurement of mean wind direction. The device consists of a wind-direction sensor, a servosystem with synchro control, an electromagnetic clutch, a reduction gearing, a time relay, and scales for instantaneous and mean wind direction. To make it possible to increase the averaging-time interval, the device is equipped with a synchro for setting the mean wind-direction scale at the instantaneous wind-direction value prior to averaging, through periodic connection of the relay to the mean wind-direction scale. The device is also equipped with an electromechanical unit for comparing instantaneous wind-

Card 1/2

UDC: 551.508.53

ACC NR: AR7002213 (AN) SOURCE CODE: UR/0271/66/000/010/A029/A029

AUTHOR: Bortsov, Yu. A.; Shestakov, Yu. S.; Suvorov, G. V.

TITLE: Experimental determination of the parameters of nonlinear systems in electric drives

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychisl'naya tekhnika, Abs. 10A215

REF SOURCE: Sb. Avtomatizir. elektroprivod proizv. mekhanizmov. T. I. M. - L., 1965, 206-208

TOPIC TAGS: nonlinear system, electric drive,

ABSTRACT: A method of determining the parameters of elements in electrical drive systems is discussed. A description is given of a device which was developed on the basis of this method and which permits sufficiently rapid determinations of the parameters necessary for modeling nonlinear systems in electrical drives. The dynamics of nonlinear electromagnetic elements (excitation circuits of electric machines, EMU, MU, amplidynes, magnetic amplifiers, etc.) which are the basic

Card 1/2

UDC: 62-83

ACC NR: AR7002213

elements in drives, is characterized by magnetization curves, the demagnetization coefficient and rated time constants of the excitation circuit ( $T_E$ ) and short-circuit contour ( $T_S$ ).  $T_E$  may be determined from the increment (decrement) of the magnetic flux from zero to the base value, and does not depend on the shape of the applied voltage or the presence of magnetically-connected circuits, so that often it is not necessary to set up a special circuit for the experiment, and the measurements may be made without disconnecting the element from the overall system. This is the most important feature of the proposed method for determining the rated time constant. The principle of measuring the coefficient of feedback, the electro-mechanical time constant, and  $T_S$  is discussed. A block diagram is given of the device and of its basic technical characteristics. The text includes illustrations. There are 2 references. [Translation of abstract] [SP]

SUB CODE: 09/

Card 2/2



ARTYUSHIN, N.K.; SUVOROV, G.Ya., starshiy inzh.

Construction and adjustment of a radio relay line using RM-24/A  
apparatus. Vest. svyazi 22 no.5:6-8 My '62. (MIRA 15:5)

1. Glavnyy inzh. Volgogradskoy mezhdugorodnoy telefonnoy stantsii  
(for Artyushin).

(Radio relay systems)

SUVOROV, I.A.

Ways of increasing labor productivity. Ogneupory 29 no.12:535-536  
'64. (MIRA 18:1)

1. Domodedovskiy ogneupornyy zavod.

SUVOROV, I. F.

Kurs vysshei matematiki (Course in higher mathematics). Dlia tekhnikumov. Moskva,  
"Sov. nauka", 1953, 295 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

SUVOROV, I.F.; SOROKIN, I.S., redakter; GUBER, A., tekhnicheskii redakter.

[Course in higher mathematics for technical schools] Kurs vysshei matematiki dlia tekhnikov. Izd. 3-e. Moskva, Gos. izd-vo "Sovetskaya nauka", 1956. 351 p.  
(Mathematics)

(MLRA 9:4)

SUVOROV, I.F. (Saratov)

Knowledge of mathematics of secondary school graduates. Mat.  
v shkole no.2:34-36 Mr-Ap '56. (MLRA 9:6)  
(Mathematics--Problems, exercises, etc.)

SUVOROV, I.F.; SOROKIN, I.S., red.; ROZANOVA, G.K., red.; TITOVA, L.L.,  
tekhn.red.

[Textbook of higher mathematics for engineering schools] Kurs  
vysshei matematiki dlia tekhnikumov. Izd. 5. Moskva, Gos.izd-vo  
"Vysshiaia shkola," 1960. 351 p. (MIRA 13:9)  
(Mathematics--Textbooks)

СУВОРОВ, И.И.

Distr: 4E2c

Красноуральск plant—pre-existent in the copper smelting  
industry. I. I. Suvorov and N. I. Gudimov. *Trudovye*  
Machiny 30, No. 10, 43-71, 1957. Development and metal-  
lurgy in 10 years of existence.

E. M. Elkin

SUVOROV, I.I.

The DG-65 diesel-electric generators. Biul.tekh.-ekon.inform.  
no.12:37-38 '58. (MIRA 11:12)  
(Diesel-electric power plants)



SUVOROV, I. K., Engineer

"Effect of the Outer Parts of a Strip on Conditions of Metal Deformation in Rolling." Sub 20 Dec 51, Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

PAVLOV, I.M.; SUVOROV, I.K., Kandidat tekhnicheskikh nauk.

Effect of the outer parts of the strip on the deformation of metal  
rolling. Sbor.Inst.stat no.31:177-211 '53. (MIRA 9:9)

1.Chlen-korrespondent AN SSSR (for Pavlov)  
(Rolling (Metalwork)) (Sheet metal)

FURMAN, Yakov Borisovich; SUYOROV, I.K., redaktor; GOLYATKINA, A.G.,  
redaktor izdatel'stva; ATTOPOVICH, M.K., tekhnicheskiy redaktor

[Assistant operators of shape mills] Podruchnyi val'tsovshchika  
sortovykh stanov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po  
chernoi i tsvetnoi metallurgii, 1956. 220 p. (MLRA 10:1)  
(Rolling mills)

18(0)

AUTHOR:

Suvorov, I. K.

SOV/163-58-4-23/47

TITLE:

Determination of Forces in Edging Semifinished Material on a Continuous Rolling Mill (Opredeleniye usiliy pri kantovanii raskatov na nepreryvnykh stanakh)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4, pp 134-140 (USSR)

ABSTRACT:

The method and examples for computation of the metal pressure on the edger rolls are given. Changes of stress distribution are examined in the cross section of a round bar at the transition from elastic torsion (I) to elastic-plastic torsion (II) without consolidation and to plastic torsion (III) without consolidation. The moments required in elastic and plastic torsion of a cylindrical bar are determined. Formula (1) makes it possible to determine the torque at the elastic torsion of the cylindrical bar, as well as the tangential stress on the circumference and in the cross section of the bar if the torque is known. Formula (2) permits to determine the torque at plastic torsion of the bar. Both formulas only apply to a round bar. To determine the stresses at elastic torsion of a bar with any cross section, the method of

Card 1/3

Determination of Forces in Edging Semifinished  
Material on a Continuous Rolling Mill

SOV/163-58-4-23/47

Prandtl (Prantl') is much in use. Prandtl suggested to make use of the analogy with a membrane or a soap film. This method permits to pass on to the analysis of torsion of bars with noncircular cross section beyond the elastic limit with help of the analogy suggested by Nadai (Ref 2) representing a development of the membrane analogy. On account of this, a formula is obtained which corresponds to formula (2) derived in quite a different way. This confirms the applicability of Nadai's method for determining the torque at plastic torsion of bars. Formula (3), which is given here, determines the twisting moment of the square strip to be edged at the transition from a square box pass to a diamond pass, for instance, and formula (4) at the transition from a rectangular box pass to a square one. As such operations are usually done in continuous rolling mills, the metal pressure on the edger rolls is here determined. Formula (5) derived permits to determine the full pressure on the contact surface of the edger rolls. Finally an example is given. There are 6 figures

Card 2/3

Determination of Forces in Edging Semifinished  
Material on a Continuous Rolling Mill

SOV/163-58-4-23/47

and 2 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: April 21, 1958

Card 3/3

SUVOROV, I.K.

Speed of horizontal metal deformation during drawing. Izv.  
vys.ucheb.zav.; chern.met. no.5:68-71 '60.  
(MIRA 13:6)

1. Moskovskiy institut stali.  
(Wire drawing) (Deformations (Mechanics))

PAVLOV, I.M.; SUVOROV, I.K.; FOMENKO, Yu.Ye.

Improved cylindrical torsionmeter with a cut-in strip. Izv.  
vys.ucheb.zav.; chern.met. no.5:72-75 '60.  
(MIRA 13:6)

1. Moskovskiy institut stali.  
(Torsion) (Measuring instruments)



SUVOROV, I.K.

Leading in rolling with nondriving rolls.  
chern.met. no.7:99-102 '60.

Izv.vys.ucheb.zav.;  
(MIRA 13:8)

1. Moskovskiy institut stali.  
(Rolling (Metalwork))

S/148/60/000/009/013/025  
A161/A030

AUTHORS: Pavlov, I.M., Suvorov, I.K., and Fomenko, Yu.Ye.

TITLE: An investigation of scale on free-cutting steel and its effect on friction in rolling

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 9, 1960, 95-101

TEXT: Free-cutting steel causes difficulties in rolling, i.e. the grip of the rollers is not firm, the rollers slip on metal, the metal cracks and tears. Same difficulties are experienced with this steel abroad. The steel per GOST 1416-54 standard contains 0.08-0.30% S, up to 0.15% P and 0.45% C. Sulphur content sometimes reaches 0.5%. The causes of the trouble in rolling have not yet been investigated and no data on the matter exist in works on the melting, deoxidation and teeming of free-cutting steel (Ref.1-4). The described investigation has been carried out in rolling in a "750" billet mill, with free-cutting "A12" and "A12A" and structural steel for comparison. Scale was collected from under the rolls in the mill

Card 1/6

An investigation of scale ...

S/148/60/000/009/013/025  
A161/A030

portions of ingots and from rolled strip. It varied only insignificantly. Conclusions: 1) A difficult grip is characteristic of free-cutting steel compared with other steel grades. 2) The chemical composition of the scale changes in the rolling process, particularly the sulphur content. 3) The softening point of the scale collected in the rolling process is in the range 850-1050°C, and the softening point is lower with a higher sulphur content. 4) Increased sulphur content in the scale makes the gripping difficult. 5) The segregation of sulphur is insignificant in rolled steel and in ingots. 6) Sulphur segregation is not clearly expressed in steel with a high sulphur content; the sulphur content difference is low on a different level and across in the ingots. 7) The sulphur distribution is more even in free-cutting steel deoxidized with aluminum, and the size of sulphurous inclusions is smaller. 8) The sulphur distribution improves in rolled metal during the rolling process. This is more clearly expressed in "A12A" steel deoxidized with aluminum. There are 5 figures, 3 tables and 5 Soviet-bloc references. ✓

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: 26 January 1960

Card 3/6

Investigation of free-cutting steel alloyed ....

S/148/60/000/011/006/015  
A161/A030

as well as the machinability and mechanical properties. Experiments have been carried out to this end at the electrometallurgical laboratory of the Moscow Steel Institute. The most even distribution in sulfides has been found in ingots alloyed with 0.19 % Ti. The machinability was tested by the standard "Two-cutters method" consisting in cutting with two cutters on a lathe (in this instance one cutter was carbide tipped and the other made of free-cutting steel), with electric wires welded to the cutters and connected to a galvanometer; the e.m.f. appearing in the circuit due to different thermoelectric properties of the cutters is proportional to the heat forming in the metal being machined, and the higher the resistance to cutting is, the higher the current in the circuit. "A12" steel with 0.19 % Ti had the same machinability as the common steel without Ti, but the machinability was perceptibly worse when the Ti content was over 0.2 %. The friction factor in "A12" steel with 0.2 % Ti was considerably higher than in normal "A12" steel and even higher than in rolling the CT.3 (St.3) steel. Conclusion: Sulfurous "A12" steel with titanium has a high machinability, high friction factor in rolling and will cause no gripping diffi-

Card 2/3

БУВОВ, И.И.

Expansion during rolling with reodraving rolls. Izv. vvs. ucheb.  
zav.; chern. met. no. 1:118-120 '61. (MIRA 14:2)

1. Loshov.kiy institut stali.  
(rolling (Metalwork))

PAVLOV, I.M.; SUVOROV, I.K.

Investigation of leading in rolling with nondriving rolls and the  
application of brakes. Izv.vys.ucheb.zav.; cern.met. 4 no.5:98-  
101 '61. (MIRA 14:6)

1. Moskovskiy institut stali.  
(Rolling (Metalwork))

PAVLOV, I. M.; OSADCHIY, V. Ya., kand. tekhn. nauk; SUVOROV, I. K.,  
kand. tekhn. nauk

Increasing the resistance of passes on 250 mills to sticking  
and wear. Sbor. Inst. stali i splav. no. 40:225-234 '62.  
(MIRA 16:1)

1. Chlen-korrespondent AN SSSR (for Pavlov).

(Rolling mills)

S/148/63/000/001/010/019  
E081/E483

AUTHOR: Suvorov, I.K.

TITLE: The relationship between the contact friction and stress state conditions in plastic deformation of metals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.1, 1963, 106-110

TEXT: A new method is described of determining the friction coefficient  $f$  in rolling. The advantage of the method is that it does not require elaborate equipment, the measurements being carried out on a pair of free-running, undriven rolls provided with a dynamometer for measuring the roll force. The conditions obtaining in various rolling processes are simulated by pushing or pulling the test piece between the rolls. Using the results of his earlier work, the author derived a formula for  $f$ ; its simplified form is

$$f = \frac{Q - p \cdot B_{av} \cdot \Delta h}{2p \cdot B_{av} \cdot r(2\gamma - \alpha)} \quad (3)$$

where  $Q$  - the pushing or the pulling force,  $p$  - the roll pressure,  
Card 1/3



The relationship between ...

S/148/63/000/001/010/019  
E081/E483

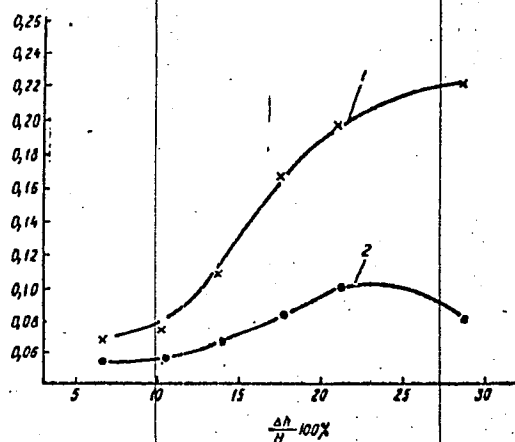


Fig. 2.

Card 3/3

SUVOROV, I.K.

Connection between friction with stressed state conditions during  
the plastic deformation of metals. Izv.vys.ucheb.zav.; Chern.met.  
6 no.1:106-110 '63. (MIRA 16:2)

1. Moskovskiy institut stali i splavov.  
(Rolling (Metalwork)) (Friction)

KRYLOV, A.A.; KUZNECHIKOV, V.P.; SUVOROV, I.M.; CHIGIRINSKIY, A.N.

Hypoplastic states in hematopoiesis as a preceding stage of  
acute leukemia. Probl. gemat. i perel. krovi 9 no.1:47-48  
Ja '64. (MIRA 18:1)

1. Iz kafedry voyenno-morskoy i gospi'tal'noy terapii (nachal'-  
nik - prof. Z.M. Volynskiy) Voyenno-meditsinskoy ordena Lenina  
akademii imeni S.M. Kirova.

SUVOROV, Ivan Petrovich; KALITA, Vasiliy Tikhonovich; LINDORF, L.S., redaktor; SKVORTSOV, I.M., tekhnicheskii redaktor.

[Mastering the operation of hydrogen cooled turbogenerators] Osvoenie  
ekspluatatsii turbogeneratorov s vodorodnym okhlazhdeniem. Moskva,  
Gos.energ.izd-vo, 1954. 127 p. (MIRA 8:4)  
(Electric generators)

PODOL'SKIY, Yuriy Yakovlevich; SUVOROV, I.V., red.; ZHUKOVA, Ye.G.,  
tekhn. red.

[Accounting and the analysis of the work of industrial equipment]  
Uchet i analiz raboty proizvodstvennogo oborudovaniia. Leningrad,  
Izd-vo Leningr. univ., 1962. 64 p. (MIRA 16:3)  
(Industrial equipment) (Industrial statistics)

SUVOROV, K., podpolkovnik, voyennyi shturman pervogo klassa

Airplanes approach the airlanding area. Av. i kosm. 44 no. 2:55-59  
'62. (MIRA 15:3)

(Airborne troops)

- |  |  |  |
|--|--|--|
| 1. SUVOROV, K. G.  |  |  |
| 2. USSR (600)  |  |  |
| 4. Poultry - Feeding and Feeding Stuffs  |  |  |
| 7. Using liquid yeast as poultry feed. Ptitsevodstvo no. 8, 1952.                                |  |  |
| 9. <u>Monthly List of Russian Accessions</u> , Library of Congress, February 1953. Unclassified. |  |  |

SUVOROV, K.G.; MINAYEV, I.M., starshiy veterinarnyy vrach.

Use of antibiotics at the Kuntsevskaya poultry plant. Veterinariia  
32 no.8:61-63 Ag '55. (MIRA 8:10)

1. Direktor ptitsefabriki (for Suvorov).  
(ANTIBIOTICS) (POULTRY--DISEASES AND PESTS)



*S. V. Kovalev, K. T.*

*4*  
Mechanization of Calculations in Metallurgical Research.  
E. M. Zamiatina, K. T. Kovalev, K. V. Demykin, and A. L.  
Brudno. (Stal', 1955, (12), 1124-1130). [In Russian]. This  
is a contribution to a conference held to discuss experience  
in the use of mechanized accounting and computing methods  
in the iron and steel industry generally. It gives details of  
some techniques involved and examples of successful appli-  
cation in the steel industry, with special reference to rail  
production.—a. a.

*Kuznetsk Metallurgical Combine + Leningrad Metallurgical Inst.*

ARKHANGEL'SKY, A.I., dots.; SUVOROV, L.A.

[Outlines of the relief, hydrography, and climate of  
Sverdlovsk Province; reference textbook] Ocherki rel'efa,  
gidrografii i klimata Sverdlovskoi oblasti; uchebno-  
spravochnoe posobie. Sverdlovsk, Ural'skii politekhn.  
in-t, 1961. 44 p. (MIRA 18:7)

SUVOROV, L.D.

89-3-20/30

AUTHOR: Suvorov, L.D.

TITLE: A Small "Hot" Laboratory (Malenkaya "goryachaya" laboratoriya) For Works at Preparations up to 100 Curies (Dlya raboty s preparatami do 100 kyuri)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 3, pp. 304 - 305 (USSR)

ABSTRACT: The construction plan for a "hot" cell approved in practice is roughly sketched and it is maintained that every organization itself disposing of not too small a workshop can construct the whole cell. The main part of the cell consists of a special cabinet which consists of 5 departments. A fundamental slab of concrete forms the bottom conclusion of the cabinet and to it a cast-iron plate, 100 to 250 mm thick, is fixed, which forms the front of the cell. The back- and side walls are made of concrete and the preparation is introduced through a special aperture in the back wall. In the front wall there are various remote control implements and three large lead glass

Card 1/2

A Small "Hot" Laboratory - For Works at Preparations up to 100 Curies

89-3-20/30

Windows through which the total interior can be seen. The left department, which is equipped with rubber gloves going through it, is assigned for  $\alpha$ - and  $\beta$ -activities, which come from the middle chamber after they have been worked or unpacked or dosimetered there.

In the right department the physical measurements of the radioactive preparations are carried out. In the middle department mainly the decay of strong preparations is to take place. There are 2 figures.

AVAILABLE: Library of Congress

1. Atomic energy plants-Safety measures

Card 2/2

ACC NR: AT6031460

conducted and the results plotted. The nymph-to-adult distribution among the ticks was also studied. The advantages and disadvantages of standard field methods were discussed.

[WA-50; CBE No. 12]

SUB CODE: 06,08/ SUBM DATE: 17Sep65/ ORIG REF: 011/

Card 2/2

ACC NR: AT6031461

greatest tick populations were found in second-growth forest about five years after cutting. Using specially prepared maps of forest types for plotting data greatly simplifies the recording and visualization of information when superimposed on similar maps showing host distribution, distribution and prevalence of ticks at various stages in their life cycles, and climatic data. [WA-50; CBE No. 12]

SUB CODE: 06,08/ SUBM DATE: 17Sep65/ ORIG REF: 021/

Card 2/2

*Suvorov, Leonid Mikhaylovich*  
SUVOROV, Leonid Mikhaylovich; PITAEV, N.A., inzh.atsenent; SHKLYAR, R.Sh.,  
kand.tekhn.nauk, red.; YERMAKOV, N.P., tekhn.red.

[Elements of X-ray detection of defects; a manual for X-ray operators]  
Elementy rentgenodefektoskopii; posobie dlia rentgenos"dmshchikov.  
Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 122 p.  
(X rays--Industrial applications) (MIRA 11:2)  
(Machinery industry--Quality control)

An Apparatus for the Contactless Measurement of the  
Electric Conductivity of Electrolytes and Other Metals

SOV/32-24-7-48/65

system of the apparatus caused this way are measured by a microammeter. A graphical representation of measuring curves obtained with aqueous solutions of sulfuric acid and caustic soda is given; from it may be seen that the measuring scheme has a sufficient accuracy. For a certain specific conductivity a definite operation frequency is recommended. The apparatus described may be used in the chemical analysis of diverse materials, as, for instance, in soil investigations, corrosion investigations etc. There are 2 figures.

Card 2/2



Suvorov, L. M.

154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
Detectography metallurgy; ultrasonic detection in metals; collection of Articles) Moscow, Oborongi, 1959. 459 p. Errata slip inserted. 4,750 copies printed.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.	CONTENTS: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutions and plants of magnetic, electrical, X-ray, ultrasonic, and penetrant methods of flaw detection are given and described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.	E.I. D.G. Shvayner, Candidate of Technical Sciences: <u>Ed.: M.S. Zagorodnyaya</u> , Tashkent, U.Z.S.S.R., Publishing: Managing Ed.: <u>A.S. Zagorodnyaya</u> , Engineer.	PREFACE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

AUTHOR:

Suvorov, L. M.

TITLE:

Control of Metallic Details by Means of Eddy Currents  
Using a Movable Coil

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol. 26, No. 9,  
pp. 1096-1101

TEXT: The electromagnetic processes occurring in a flat nonmagnetic workpiece when measuring its thickness or that of a plating are analyzed. Moreover, problems are discussed concerning the determination of material defects and electrical conductivity by means of the eddy-current method. Experiments for the determination of the thickness of aluminum sheets showed that values agreeing with the experimental data (Fig. 2) are obtained according to equation  $\Phi_s = \Phi_0 [1 - CD^2 \sqrt{\sigma}]$  ( $1 - \exp(-2k\delta) \cos(2k\delta)$ ) (6) ( $\Phi_s$  = summary magnetic flux,  $\Phi_0$  = basic magnetic flux,  $D$  = measuring coil diameter,  $C$  = coefficient,  $\sigma$  = specific

S/032/60/026/009/005/018  
B015/B058

CIA-RDP86-00513R001654020009-4

Control of Metallic Details by Means of Eddy  
Currents Using a Movable Coil.

S/032/60/026/009/005/018  
B015/B058

conductivity of the metal,  $f$  = current frequency). The highest measuring sensitivity is achieved when the current frequency is selected in such a way that the value  $k\delta$  for the maximum metal thickness does not exceed 0.5. In Fig. 3, a diagram is shown for selecting the frequency for some metals and alloys at  $k\delta = 0.5$ . When determining the thickness of platings, the sensitivity and accuracy of the method increases with the difference in the electrical conductivity of the base material and plating. One can also determine the thicknesses of double-layer metal platings according to the eddy-current method, if a difference in the electrical conductivity of the plating metals and the base exists, it being necessary, in so doing to operate with three frequencies. If, on the other hand, the electrical conductivity is determined, the effect of the metal-layer thickness must be completely eliminated by a suitable selection of the frequency (from the diagram in Fig. 3). The eddy-current method can be applied for the determination of material defects in non-magnetic materials, since various material defects reduce electrical conductivity. The maximum depth down to which material defects can be determined, corresponds to a value of  $k\delta = 0.8-0.9$  and only depends on

Card 2/3

SUVOROV, L.M.

Characteristics of the X-ray pattern of 1Kh18N9TL and 1Kh18N9L  
steel. Lit. proizv. no.2:37 F '63. (MIRA 16:3)  
(Steel alloys--Metallography)

S/128/63/000/002/002/002  
A054/A126

AUTHOR: Suvorov, L. M.

TITLE: Special features of X-ray photographs of 1 X18H9TJ (1Kh18N9TL) and 1 X18H9J (1Kh18N9L) steels

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1963, 37

TEXT: On the X-ray photographs of some castings of the above mentioned steel grades dark spots and lines may be observed which, according to experience are indications of shrinkage, porosity, etc. in the steel structure. However, the micro- and macroanalyses of such castings did not actually reveal the flaws expected from the interpretation of the films. Upon investigating the causes of this phenomenon it was found that the "pseudo-defects" as indicated by the X-ray film mostly occur in ribbed castings or in those with protruding flanges, thin bridgings, etc. (some examples are given in a figure). It is supposed that upon penetrating these configurations, the X-rays are diffracted and produce in the case of ribs, projections, etc. dark spots on the film. When the surface of these configurations forms a slight angle with the orientation of the X-rays,

Card 1/2

Special features of...

S/128/63/000/002/002/002  
A054/A126

lines will appear on the radiograph. Two means are suggested to neutralize this effect: increase the thickness of ribs, projections 2 - 3-fold by arranging a steel strip under them or, if their structure has not to be investigated, surround them with a 1 - 2 mm thick lead strip; if it is not possible to reduce the X-ray diffraction by this measure, the sector in question has to be X-rayed a second time from a distance of 3 - 10 cm in such a way that the position of the casting is somewhat shifted in relation to the X-ray tube. If thereupon the shape of the dark spots or lines changes, then it may be taken that there is no flaw in the metal structure. Another feature of the 1Kh18N9Ti radiographs is that it may show a lamination indicating the orientation of crystallization in the solidifying metal. There is 1 figure.

Card 2/2

AUTHOR:	<u>Suvorov, L.N.</u>	32-3-36/52
TITLE:	An Electric Induction Device for the Investigation of Cracks in Parts Made From Nonmagnetic Alloys (Elektroinduktivnyy pribor dlya obnaruzheniya treshchin v detalyakh iz nemagnitnykh splavov)	
PERIODICAL:	Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 354-356 (USSR)	
ABSTRACT:	The plant recommended works in accordance with the principle of the generation of eddy currents in nonmagnetic metal, which are influenced by existing cracks or other material defects and can thus be investigated. The basic components of the device are a generator, an oscillatory circuit and a recording device, as may be seen from a schematical drawing. Graphs of investigations carried out with two different alloys are given. It was found that, in the case of cracks located lower down, a low height of the crack, and a larger intermediate layer, accuracy of observation is reduced. The cylindrical probe used for investigations has a magnetic conduction line consisting of Armco iron foils and is constructed in such a manner that a considerable decrease of the "boundary effect" is	

Card 1/2

An Electric Induction Device for the Investigation  
of Cracks in Parts Made From Nonmagnetic Alloys

32-3-36/52

attained. The necessary amperage does not exceed 50 kilowatts.  
There are 5 figures.

AVAILABLE: Library of Congress

1. Metallurgy-Inspection methods

Card 2/2

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
<p>SA with 1335</p> <p>PROCESSES AND PROPERTIES INDEX</p> <p>332.528</p> <p>"The nature of the destructive action of cavitation," Kornfeld, M., and Suvorov, L. J. Phys. U.S.S.R., 2 km. F. i. , A5-3 a</p> <p>5. 1-2. pp. 75-92, 1942.—The singing of a kettle, explained by the collapse of steam bubbles, has led to the explanation of the erosion of ship propellers, etc. The mechanism of the action as described by Cook and Rayleigh indicates the possibility of the existence of great pressures. In the authors' experiments cavitation is produced by a Ni tube oscillator vibrating at resonant frequency 7500 in water. The short specimen under test was screwed into the upper end of the vertical oscillator, and the shape, vibrations and behaviour of the bubbles formed are discussed. The bubbles lose stability on attaining a dia. of 0.5 mm. and have destructive properties, boring through Al leaf, in a few min. The erosive action of cavitation is caused by the pressure due to the direct blows of the liquid. In the case of ship propellers, unstable surface cavities play the most important rôle, and a rubber covering for the propeller is suggested as a protection. The vibrations of the screw and its blades may lead to surface cavitation with very strong erosive action.</p> <p>G. E. A.</p>										<p>COMMON ELEMENTS</p> <p>COMMON VARIABLES INDEX</p>									
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST AND 2ND ORDERS</p>										<p>3RD AND 4TH ORDERS</p>									



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																									
1ST AND 2ND LETTERS													3RD AND 4TH LETTERS												
AUTHOR INDEX													SUBJECT INDEX												
BC													B-1-1												
<p>with just it'd.</p> <p>"Destructive action of cavitation." M. Kornfeld and L. Savorov (J. Physics, U.S.S.R., 1944, 8, 171-188). Experiments were made using Gaissner's technique (Physics, 1932, 8, 208) for exciting longi- tudinal vibrations in a Ni bar under H<sub>2</sub>O, adapted so that the end surface of the bar could be observed microscopically. At small amplitudes air bubbles are formed on this surface, and are observed to vibrate radially. At larger amplitudes these bubbles become opaque, break away from the surface, and dart about in the liquid; they have a considerable destructive effect if allowed to impinge on a metal foil. At the highest amplitudes a "cavitational cloud" appears on the surface; this continuously changes its shape and size, the latter over a range of from 3 to 5 times. For such changes Rayleigh's theory of impulsive pressure is inadequate to explain the destructive action of the cavities, which must be ascribed to the direct impact of the H<sub>2</sub>O on the surface as the cavity collapses (cf. Rayleigh, Proc. Roy. Soc., 1878, A, 80, 71; Cook, B., 1932, 144). H. J. W.</p>																									
1ST AND 2ND LETTERS													3RD AND 4TH LETTERS												
AUTHOR INDEX													SUBJECT INDEX												

SPYROV, L. I., ALIMHAROV, A. I., ZAVOYSKIY, V. K., SERDUK, R. D., and  
ERSHLEV, V. V.

"A Boiling homogeneous Nuclear Reactor for Power," a paper presented  
at the Atoms for Peace Conference, Geneva, Switzerland, 1955

ALIKHANOV, A.I.; ZAVOYSKIY, V.K.; SHERDYUK, R.L.; ERSHLER, B.V.; SUVOROV, L.Ya.

[Boiling homogeneous nuclear power reactor] Kipiashchii energeti-  
cheskii gomogennyi iadernyi kotel; doklady, predstavlennye SSSR  
na Mezhdunarodnuu konferentsiiu po mirnomu ispol'zovaniu atomnoi  
energii. Moskva, 1955. 13 p. [Microfilm] (MIRA 9:3)  
(Nuclear reactors)

S/089/60/009/01/01/011  
B014/B070

AUTHORS: Ershler, B. V., Torlin, B. Z., Suvorov, L. Ya.

TITLE: On the Theory of the Stability of a Homogeneous Boiling  
Water Reactor /9

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 1, pp. 5-9

TEXT: First, the kinetic equations of a homogeneous boiling water reactor are developed by taking account of the volume boiling of the moderator (water). From these equations the following conclusions can be drawn:  
(1) For slight superheating (by some degrees), the hydromechanical mechanism of boiling can set in in a homogeneous boiling water reactor.  
(2) The magnitude of stationary superheating  $\Delta t_0$  for the hydromechanical mechanism of boiling is determined by the conditions of motion of boiling water existing in the reactor. The quantity  $\Delta t_0$  is characteristic of these working conditions. (3) An analysis of the kinetic equations shows that in a given range  $\Delta t_0$  values exist which correspond to stable working conditions in a wide range of power. If  $\Delta t_0$  goes beyond the

Card 1/2

✓C